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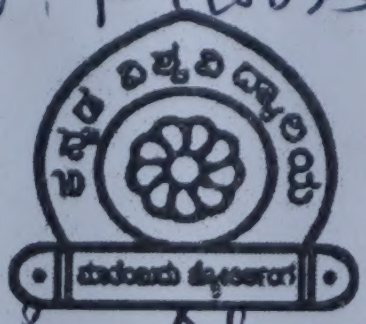
T: How Films Are made



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Bal Pustakalaya

HOW FILMS ARE MADE

KHWAJA AHMED ABBAS

ಗ್ರಂಥಾಲಯ

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Shooting on location—the camera crane

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THE MAGIC ON THE SCREEN

As the lights are dimmed, silence falls over the hall full of people.

The crunching of wafers and munching of pop-corn cease.

All eyes are turned towards the screen, called 'the Silver Screen' because it is silvery white.

Then the magic show begins. It may be an advertising film in colour or black and white, proclaiming the virtues of Dr Daantwala's Tooth Paste or Lucky Toilet Soap. It may be the Indian News Review produced by the Government of India's Film Division—ministers making speeches, soldiers parading, angry demonstrators burning buses and throwing stones, or smiling children at play. Or, it may be a colour film with a story and your favourite stars—Amitabh Bachchan or Rajesh Khanna, Dharmender or Dev Anand, Hema Malini or Sharmila Tagore or Parveen

Babi. But, the magic is there all the same . . . the magic of moving pictures. Racing cars, running trains, galloping horses, the hero fighting a dozen villains, the heroine dancing, comedians laughing and making you laugh. It is all movement, it is all magic.

You know that the images are thrown on the screen by a beam of light which can be seen in the darkened cinema-hall. But, how can the images be in colour? How can pictures be *moving* pictures? How can they talk and sing?

Then you are carried away on the magic carpet. . . carried away to the fairyland where heroines are beautiful, heroes gallant and dashing, villains dark and devilish. You are carried away, far from your city, town or village, to some country that never was. It exists only so long as the magic lasts in the darkened hall. The spell is broken when the images disappear from the screen, the moment the lights are switched on in the cinema-hall.

Shabana Azmi

You may wonder about the magic of the moving pictures on the silver screen. How does it all happen? Who makes it happen? In other words, you want to know: How are films made?

MOVING PICTURES THAT DO NOT MOVE

Science is the magician that makes the pictures move on the silver screen.

Actually the pictures do not move at all. They *seem* to be moving, they *look* to you as if they were moving. They are a succession of stationary, steady images on a transparent film in colour or black and white. The original images or pictures are little bigger than a postage stamp, but they are enlarged or magnified a hundred times when they are projected on the giant-sized screen. A powerful beam of light is thrown on the screen from the cinema operator's cabin to project the images.

You have seen the principles behind the magic of motion pictures without recognising them.

Haven't you sat in front of a lamp, lantern or fire, held up your hand and bent your fingers to throw shadows

on the wall—shadows shaped like a rabbit, a cat or a flying bird? These shadows become bigger if you hold your hand nearer the source of light. Well, believe it or not, childish shadow-play was the beginning of the cinema industry.

Have you watched your baby brother making absurd and funny pictures of houses, trees, cats and rats with his crayons or colour pencils? The little fellow is doing what Walt Disney, the maker of the world's greatest cartoon films and the creator of Mickey Mouse, did to entertain millions of children of all ages, all over the world.

Have you taken part in a school drama? Just imagine the stage to be the studio where films are made, and actors and actresses play their parts.

Do you or one of your friends possess a box-camera? Has he taken your picture? Or have you taken your friend's pictures with this camera? When you were facing the camera to be photographed, and trying to look your best, posing with your head inclined this way or that, you were *acting*, the way your favourite film actor or actress acts before the camera for a film. The boy with the cheap box-camera, asking you to look up or down, to get the light on your face, is acting exactly like the cameraman or even the director of a film.

Do you read comics where the story is pictorially told in sixteen, twenty or twenty-four pictures ? In the same way, a cinema story is split into many sequences, scenes, shots and frames. The comic costs a rupee, the making of a film costs a million or more rupees. But the principle is the same.

Have you played with one of those flip picture-books which have similar pictures drawn on each page? On looking closer, you will find that there is a slight difference in each picture—the position of the legs and hands has moved just a little; a little more in the next picture, and so on. Thus, when you quickly flip the pages of the book, the pictures come to life. They are no longer a series of pictures—it is a moving picture.

In principle, your hand is performing the same function as the cinema projector. The cinema projector projects one picture after another on the screen at the uniform speed of twenty-four 'frames' (or pictures) per second which creates the impression that the characters in the pictures are moving.

The film camera is just an ordinary camera, not very different from your box-camera, which takes twenty-four consecutive pictures per second, on a long strip of film that unwinds itself after each frame has been exposed.

After the whole film is ready, the long strip runs through

Shooting from a jeep

the projector, at the same speed as the pictures were taken—twenty-four frames per second—each frame being brought before the powerful beam of light, held there for a fraction of a second, then the shutter closes and the next frame is brought forward for projection. But it is done at such speed that, looking at the projector, we think the reel of film is running through it continuously as a reel of thread runs through the needle of a sewing-machine.

Since the speed at which the camera originally photographed the scene is the same as that of the projector, the successive images appear and disappear, at a uniform but fast enough speed, to give the impression of moving pictures. The same principle which makes the pictures in a book appear to move when you flip its pages applies here.

It is a complicated but fascinating process, no less interesting than the stories projected on the screen for your entertainment and, sometimes, even for your education and instruction. It appears magical, but the magic is only that of science and technology, the principles of physics and chemistry applied to the old art of story telling and dramatics. Your enjoyment of films will increase if you know how they are produced.

But before a film is produced, its script has to be written, and before it is written it has to be thought out in the minds of the writer and the director.

The cinema has to do with machines, but the machines only do what the minds of men want them to.

ONCE UPON A TIME

"Once upon a time there was a king . . . "

You must have heard stories that began like this from your grandmother, your mother or one of your aunts.

The king had seven beautiful daughters . . . or a son, who was very adventurous, and rode through the jungle on a white horse to rescue the fairy princess who was held captive by the bad demon . . . .

Stories about kings and princesses, about fairies and demons, about flying carpets and winged horses. Sometimes there were even stories about ordinary men and women, boys and girls.

Then you read stories in your textbooks, in story-books, in novels. You see stories enacted on the stage.

The cinema is the latest means and method of telling a story to thousands of people at the same time.

But first of all one man must think up the story.
He is called the story writer.
He may write a story or think of a story-idea.
It may be an original story or idea, or he may have borrowed it from some book, a published story or a play, or he may even have 'stolen' it from a foreign film.

He submits the story or story-idea to the producer or the director, they discuss its possibilities, mainly asking themselves if it will be liked by the hundreds of thousands of cinema-goers. If they agree on the story, they turn it over to the screenplay writer (or writers) who may be the

Director discussing script with the stars

director himself or some other writer with a lot of experience of writing for films.

He expands and visualises the story as it will appear on the screen, divides it into sequences and scenes, again consults the director, and prepares the screenplay.

The screenplay is like a play, but it is written with the requirements of the screen in mind: What the sequence of scenes will be, and which characters will appear in which scenes and do what.

The screenplay, after it is approved by the director (or by the director and the producer), is handed over to the dialogue writer.

In other countries, the screenplay includes the dialogues, but in India the two are often written by different people. For, the film may be in Hindi, and the screenplay writer may not be a writer in Hindi. Screenplays are often written in English to serve as a common medium between the producer (who may be a Punjabi), the director (who may be a Tamilian), the cameraman (who may be a Bengali), the sound-recordist (who may be a Gujarati-speaking Parsi), the hero (who may be a Punjabi, an Uttar Pradeshi or a Bihari) and the heroine (who may be a Tamilian or from Andhra or a Sindhi).

Moreover, since the first talkies made in India which were filmed stage plays, the dialogue writer (specially in Hindi films) has played a very important role. He uses more Sanskritised Hindi for mythological films, Persianised Urdu for Mughal period historicals or 'Muslim Socials', and a commonly understood Hindustani for the films of today

Scene from a mythological film

(generally called 'Socials'), and yet retains the beauty and power of language to appeal to the mass of cinegoers for whom the dialogue in films is the only form of literature with which they come in contact.

In some cases, the same person may be the director as well as the producer, and the screen play writer may also be the dialogue writer, but I have dealt with each function separately, to make it easier for you to understand the importance of each in the scheme of film making.

Since songs are important in most Indian films, the lyrics writer and the music director are also very important,

and they must compose the words and music of songs before the actual shooting of the song-and-dance scenes.

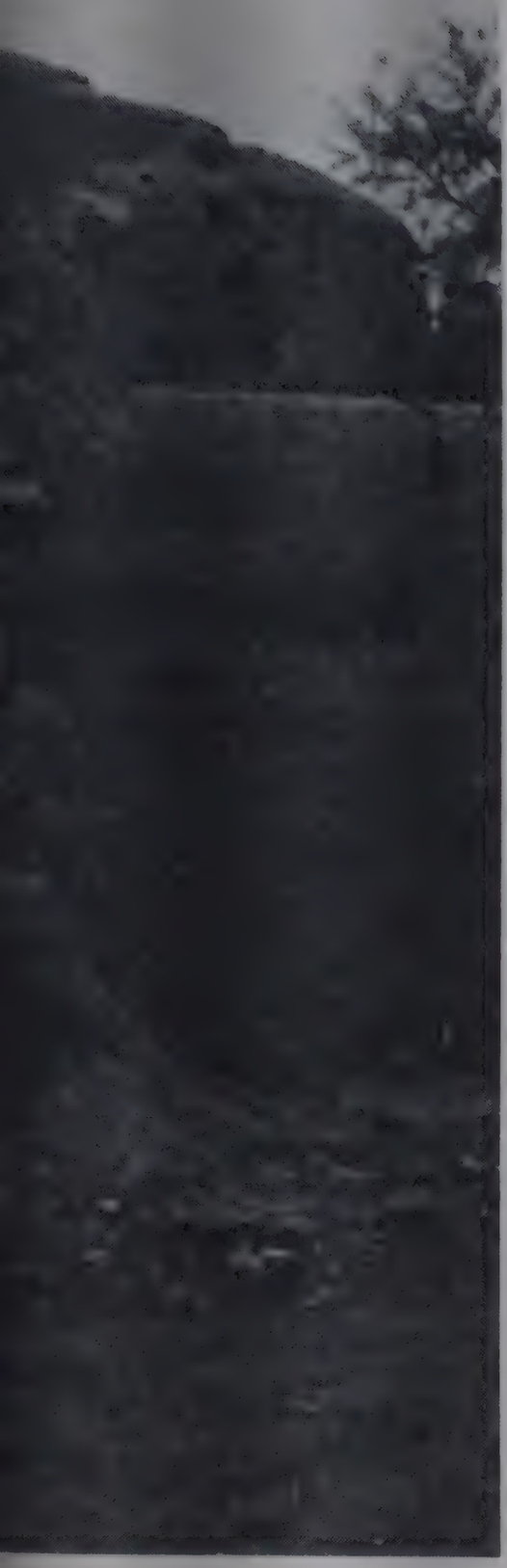
It is only after all this has been done that a producer is ready to film scenes, which may be shot indoors in a studio or house, or on outdoor locations. We will visit a studio as well as go outdoors to watch film making at close quarters.

ALLADIN AND THE WONDERFUL LAMP

As you enter the well guarded gates of a studio, the first impression is that of utter confusion.

Men and women are hurrying hither and thither, dressed as if for a fancy-dress party—costumed as gypsy dancers, circus clowns, police constables and officers, lawyers in black gowns, cabaret girls in colourful whirling skirts, or tough looking gangsters. These are the junior actors who were once insultingly called 'extras'. But they are not 'extras', they are very necessary to lend colour, authenticity of atmosphere, and the excitement of crowded scenes to the film. If you know how little they are paid per day, and for how few days in the month they can get employment, you will understand why some of them have such sad looking faces. And when you see a crowd scene in the next film you will marvel that these people can laugh, sing and dance, just as they are ordered to.

A ruined village—a still from *Asani Sanket*



There are also others carrying cameras and heavy lights, pushing trolleys, moving scenery painted on plywood, or unloading a truck-full of furniture. Now and then you catch a glimpse of a well-known star rushing from his make-up room to the studio floor. Let's follow him (or her) there.

You have surely read the story of Alladin and the Wonderful Lamp. No sooner did Alladin rub the brass lamp than the Genie appeared to take orders from him.

"Make me a palace," commanded Alladin and, in a trice, the palace miraculously appeared.

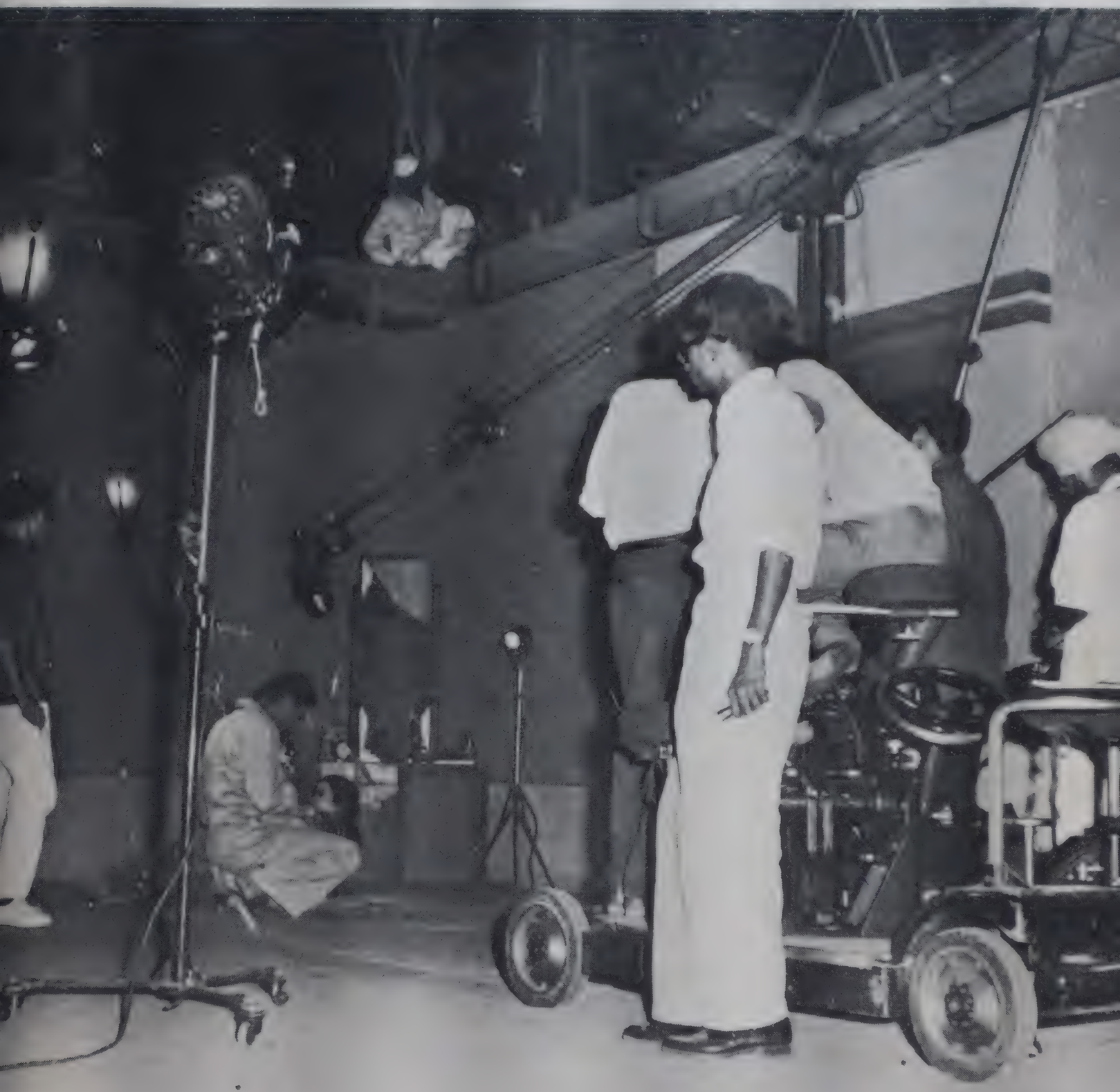
When Alladin grew tired of the palace he said, "Take it away." The next moment the palace disappeared.

The art director, who plans and supervises the construction of studio sets, his assistants and set workers are such Genies of the Wonderful Lamp. They can build a palace one day and pull it down the next. They can make a rich man's mansion or a poor man's hut overnight.

You have often seen vast halls with columns and pillars in films and marvelled at the time and expense involved in building such a set. Now you can see that the marble columns are hollow cylinders made of plywood and covered with marble-patterned paper, the walls are large sized wooden frames (called 'flats') over which cloth is stretched and the heavy teak wood doors are but wafer thin plywood. Inside is the rich, polished, sparkling atmosphere of a fashionable drawing-room. An impressive winding staircase leads to a balcony which overlooks. . .nothing. For, behind, it is all a confusion of scaffolding, stepladders, a camera crane, which looks like some long necked prehistoric monster, and disused and dismantled set materials like broken walls, pillars, doors, windows, etc. The beautiful red and orange sunset that you can glimpse through the lace curtains is only painted on the background cloth which stretches around the studio walls from ground to ceiling.

On the set, surrounded by a cluster of big and small lights are the hero and heroine, enacting a scene. You can recognise the director, the chief cameraman, their assistants, and the assistant of the sound engineer. He sits outside in his recording booth holding a microphone which is at the end of a long steel arm called the 'boom' that is fixed to a movable tripod; this is placed near the actors who are to speak, but always just out of the range of the camera.

Far above the boom, and higher than the walls of the set, are narrow wooden platforms hung from the ceiling by strong ropes. These are the 'cat-walks' on which are fixed the big lights that illuminate the whole set from



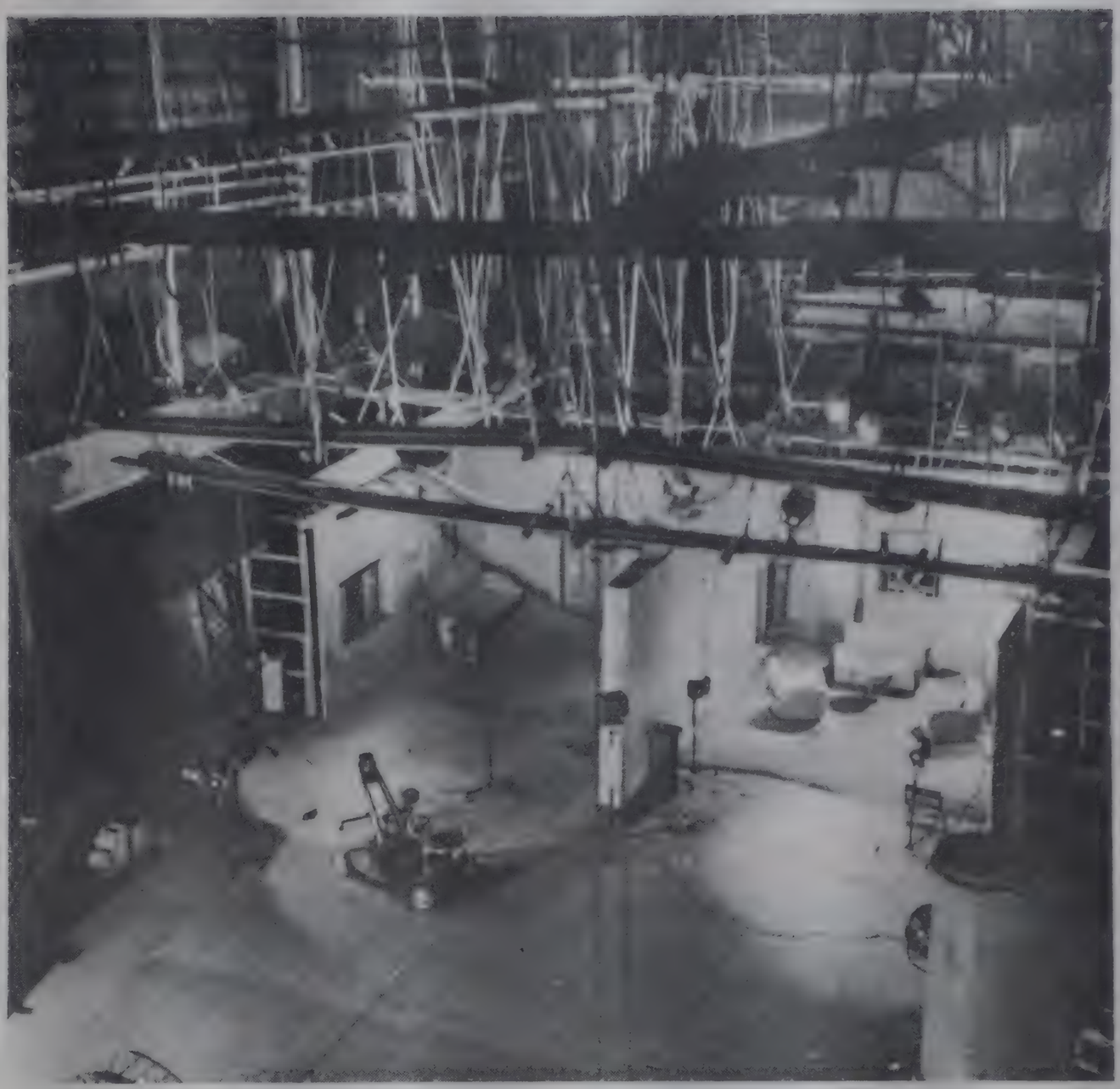
The 'boom' on its tripod

different angles. According to their kilowatt electric power, the lights are known as 'Ten K's' (10 kilowatts), 'Five K's' (5 kilowatts) 'Solars' (2 kilowatts). The lights on the ground which illuminate the faces of the actors are either 'Solars' or 'Babies' (1 kilowatt each).

The active, agile men who fix these lights, adjusting them according to the instructions of the cameraman or his assistants, are known as 'light coolies'. Every day, as they climb up to these cat-walks without ladders, with only the help of long ropes, and as they move from one plank to another, sometimes carrying heavy lights, they risk their lives at each step. Not infrequently someone slips and falls. Some of the accidents are fatal. Next time you see a brightly lit scene in a film, think of the poor men who risk their lives daily for your enjoyment.

These men, though called 'coolies', perform an important task. The lighting of a scene, the beauty of the stars, depend upon the perfect adjustment of different lights, most of which are handled, tilted up or down, by these humble men whose names never appear in the credit titles of films, who are paid very little, and are generally ignored.

While we have been looking up at the lightmen who climb to dizzy heights like circus acrobats, down below on the set, the make-up men are giving the finishing touches to the 'stars'—the heroine, the hero and the other actors required for the scene. The make-up is a good deal more elaborate than for your school dramatics. But the principle is the same, the main difference being that in a play actors and



The cat-walks

actresses must be ready to do a whole act and will be on the stage till the curtain comes down, while in films the actors or an actor have to prepare for only a little part of a scene, called a 'shot'. Even this shot may be done over and over again, with the cameras running and expensive colour film being used up.

Here is another kind of magic in this magical world—the magic of make-up. You may find, for instance, that the heroine really has a dark face and her rose and milk complexion seen in the films is due to the make-up artists

applying paint, powder and rouge to her face. Actually, it is partly good make-up and partly the effective use of lights and photography that hide the physical drawbacks of the actors and accentuate their good points. That is why few who work in the studio are impressed by the glamour and beauty of the stars which, they know, is in many cases created by workers like themselves. When you leave the studio you will have more admiration for the hard work your favourite stars put in, the scenes they have to do over and over again under blazing, hot lights, but you may have shed some of the illusions you had about their

The magic of make-up

beauty and glamour which so dazzle on the screen.

You will be glad to leave the studio; it is very hot inside, because it is closed in on all sides, and the big lights are blazing all the time. Today the set was a rich man's drawing-room, tonight the set 'boys' (as the workers are called) will dismantle the gorgeous set, and tomorrow in its place there will be a different set altogether, perhaps a robber's cave. The Genie of Alladin's Lamp or the magicians of the cinema create and destroy palaces and fairy-tale castles with as much ease as they do the huts and hovels of the poor. The cinema, after all, is what man makes of it!

PICNIC ON THE BEACH

All film shootings do not take place in studios. Some scenes have to be shot in natural surroundings. These days many producers of low budget films prefer to shoot even their indoor scenes in real bungalows, flats and offices to save on the high cost of set-making and studio hire. Nobody allows his bungalow or flat to be used free, but the rent is not very high. Light-weight cameras, aluminium lights and portable generators of electric power are becoming increasingly popular as they can be conveniently carried for shooting outside a studio. But for technical excellence a studio set has certain advantages which are not available in residential buildings taken on hire. In flats there is no extra 'shooting space' to place the camera and lights, and because of the low ceilings no overhead lights, which are essential for certain photographic

Outdoor shooting

effects, can be arranged. The sound recording is also not as perfect as in a sound-proof studio set. Most dialogues recorded in these out-of-studio sets and locations have to be 'dubbed' or re-recorded.

Both big producers who shoot in studios and small producers who prefer bungalows or flats, have to shoot many scenes outdoors in natural sunlight—all those lovely scenes of snow-clad mountains, beaches, running trains and hero and heroine or the villain's gang riding through dense forests. Scenes like these cannot be created in a studio. More and more producers are taking their artistes and technicians with their equipment to Kashmir and Kulu, Naini Tal and Mussoorie, Ootacamund and Coonoor,

and even across the frontiers to Afghanistan and Nepal, to add colour to their pictures.

But if we want to see a shooting within a day's trip from Bombay, all we have to do is to take a train to Malad and then a bus to what is known as Madh Island, which isn't an island but a lovely beach.

The whole coast is fringed with palm groves. There is a picturesque old church not far from the sea, and little picnic cottages which can be hired for the artistes to change their clothes and to rest during lunch-recess. But, for the rest, it is a picnic by the seaside.

Shooting on Madh Island

Two big trucks and several cars are parked in the shade of the palm trees. One of these, known as the 'Sound Truck', carries the equipment including the camera, a professional-sized tape recorder for sound recording, a playback machine for songs, a camera-trolley, and 'reflectors'.

The reflectors are big and small wooden boards covered with silver paper to throw reflected sunlight on the actors if they happen to be in the shade or without adequate light. The other truck contains the electric generator which is necessary for the camera and the tape recorder to run at

the same uniform speed, what is called 'in synch', which is not possible when the portable camera runs on electric power derived from batteries.

Outdoor shooting may look like a picnic to you but for the junior technicians who have to carry the heavy reflectors and for the artistes—stars and others—it is no picnic to have the sunlight directed straight into their eyes by the reflectors. In fact actors and actresses take years to get used to these reflectors and control their eyes from watering. The next time you see your favourite actor standing in the sunlight smiling gaily, think of how he is suffering with the light from the reflectors aimed at his eyes like piercing arrows.

Everyone knows and says that for outdoor shooting the soft early morning light is the best. Later it becomes too hot, and the sunlight becomes what is called 'top light', throwing deep shadows under the eyes of the hero or heroine, necessitating the use of reflectors which cause great inconvenience to the artistes. But few units are ever able to begin work before ten or eleven in the morning. The hero gets up late because of a late night party; the heroine takes two hours to apply make-up and be ready for the scene; the dialogue rehearsal takes time. When they are all assembled (the camera protected against the sun by a huge umbrella), the sand on the beach is so hot that the hero and heroine chasing each other, dressed in swimming costumes or rolled-up slacks, get their soles scorched.

Outdoor shooting is not only for romantic song-and-dance sequences, it may be for emotional and dramatic

Actors relaxing on the beach before shooting

scenes—an exciting fighting scene on the beach or in a boat or steamer on the high seas, or even a picnic scene. But, as you know, the shooting is no picnic.

Still, away from the four walls of a studio, you feel a relaxation of social barriers. The handsome hero, the beautiful heroine, the great director, the capable cameraman unbend and fraternise with the other members of the unit—the technicians and assistants of the hired sound truck, the continuity girl, the assistant directors, the make-up men and their assistants, the dresser and others, who constitute the outdoor team.

Talk to the sound truck people: they will tell you interesting stories about famous stars—stories of their kindness as well as about their egos, vanities and jealousies. These sound trucks, with their equipment, are hired by different companies not only for local outdoor shooting but to go to far off locations like Kashmir or Assam Meghalaya or Ooty. One month they will be boiling in the sweltering heat of the Rajasthan desert, the next month they may be freezing in the snowfields of Kufri or Gulmarg. They certainly visit exciting places and see the stars in very different moods. If one of them wrote a book, what an entertaining story he would have to tell.

GHOSTS WHO SING

When moving pictures began to talk they simultaneously also began to sing.

Initially films were advertised in India as 'All Talking, All Singing' sensations.

There was a great demand to film musical stage plays, and for the singing heroes and heroines of the stage. For a film actor singing ability was considered more important than talent in acting or even good looks.

Then, after some years, the 'playback' system was invented, and it brought about a revolution in film making. But to appreciate the significance of this phenomenon, it is first necessary to understand the basis of sound recording for films.

Talking films were first produced by the marriage of the principles of photography and sound recording. In

Prithviraj Kapoor in an indoor scene from *Aasman Mahal*

the early days an orchestra of a few musical instruments played during the running of silent films, and for those spectators who could not read the titles on the screen, a man kept up a running commentary, sometimes even speaking out the dialogue that the actors of the silent screen were supposed to be uttering. The next development was to substitute a gramophone record for the orchestra. Then the whole sound of the film—dialogue as well as music—was put on gramophone records, which were played roughly at the same speed as the moving pictures and created the impression that the characters on the screen were actually talking.

But the real 'talkie' was made possible when sound was directly and photographically recorded on film itself. When prints were made the sound-track was printed on the left edge of the film strip.

The process was, and is, basically as follows. There is a microphone hanging in the set, near enough to the actors to catch their voices but out of camera range, so as not to get photographed. Electric wires connect the microphone to the sound-recordist's cabin or booth. Here the film is running through the recorder which is synchronised with the camera—that is, the recorder is working simultaneously and at the same speed as the camera—and is electrically transforming the sound into a zigzag pattern which appears on the edge of the film. Later this zigzag pattern, or sound-track, is printed along with the picture negative film and what is called a 'married print' is obtained which has the picture as well as the sound on it.

When the film runs through the projector in the cinema-hall, and a powerful beam of light projects an enlarged image of the moving pictures on the screen, an electric beam passes through the sound-track and activates a photo-electric cell. This cell sends electric impulses to an amplifier which transforms them into actual sounds. These sounds are carried by electric wires to a loud-speaker behind the screen from where they are heard by the audience. And since the sound is perfectly synchronised with the actions and lip movements of the characters, the impression that the characters are speaking or laughing or singing is created.

There have been many innovations in both photography and sound. Black and white pictures have been largely replaced by colour pictures and the old sound machines by tape recorders, so that only the perfect 'takes' are transferred on sound film. But the basic principle is the same.

Since the two negative films—one for pictures, one for sound—are different, how are they matched, adjusted to each other, or 'synchronised'? It is done with the help of a simple device known as a 'clap-stick'. This is a small black slate or board on which the name of the picture, the number of the scene, 'shot' and 'take' are written. The board has an arm hinged to the top. At the beginning of each shot it is brought before the camera, the director calls, "sound start", the sound man starts the recorder and calls back "camera", the camera starts and then the 'clap-boy' as the assistant is called, calls out the number of the scene, shot and the take and brings down the arm

of the board with a clap. The sound of this clap is recorded and makes a distinct mark on the sound-track which when synchronising the two tracks, is matched with the frame of the picture film.

Originally songs had to be sung before the camera, just as dialogues were spoken, by the same people. The good singers were not necessarily good actors, and good actors were not necessarily good singers. Moreover, a singer's voice was not always at its best when recording. Also, since the song had to be recorded and photographed simultaneously, the accompanying orchestra had to be small, because it had to be out of the range of the camera but near enough to the singer and the microphone. There could not be very many variations of shots and camera angles. All this, however, changed with the invention of the playback system.

It meant that the song, with full orchestra, was faultlessly recorded earlier and was played back on the set or outdoor location, where the actor or actress would pretend to sing

Satyajit Ray with his camera unit

using the appropriate lip movements. Now that the ghost voices of the best singers were available for playback, actors and actresses did not need to be singers themselves. A better, more educated and intelligent group of actors were attracted to the screen, who had been previously kept away because they did not know how to sing. The playback system freed the Indian cinema from the singer-actors (who were often no actors at all) and brought in a new generation of actors. But it created new problems and contradictions at the same time.

Since there were only a few playback singers who could sing popular songs suitable for film audiences, every producer ran after them. So a time came when all the actresses were singing in the voice of Lata Mangeshkar or Asha Bhonsle, and all the actors were singing with the voice of Mohammed Rafi or Kishore Kumar. The result was not only unnatural—for instance, how could Dilip Kumar and Raj Kapoor have the same singing voice—but the audience also got bored with the sameness of the singing voices. But in a commercial system where everyone is in competition, you cannot blame the producers for running after the best and most popular actors, actresses or playback singers.

In the realm of film sound there is another development which may be regarded as the opposite of the playback system.

With the new popularity of shooting on location, outside sound-proof studios, the sound-recordists were faced with a problem. On outdoor location conditions

Scene from *Pardesi*—an Indo-Russian production

were far from perfect. Along with the voices of the actors many extraneous sounds were recorded—the murmuring of the crowd which collected to watch the shooting, the clanging of passing trains, the honking of cars, the metallic whir of the electric generators required for portable lights or to run the cameras and sound-recording equipment. Sometimes, even the sound of portable (but not sound-proof) cameras disturbed the voices of the actors.

These additional disturbing sounds could not be removed from the original sound-track. But by the process of post-synchronising or 'dubbing', as it is generally called in India, it was possible to make a new sound-track with only the actors' dialogue.

The film is run in the studio projection-room with the original sound serving as a guide track for the actors to know the exact words they spoke and their original intonation.

The whole film, or even one reel is not run at a time for dubbing. Each sequence is cut into small, easy-to-dub portions of dialogue and made into loops which run endlessly on the projector, over and

over again, making it possible for the actors to rehearse their dialogue. Then the sound is cut off from the screen's loud-speaker and piped into ear-phones adjusted over the actors' ears. They have a microphone in front of them and while watching their own lip movements, speak their lines which are recorded; the resultant new and 'clean' sound-track is substituted for the old disturbed one.

By the same method an actor's defective voice can be replaced by that of a dubbing artiste. For instance, after she died some dialogues in one of Meena Kumari's unfinished pictures were dubbed by a dubbing artiste whose voice and intonation bear a striking resemblance to the voice of the great star.

By the same process, films in one language can be dubbed in another language. Of course, here the translated dialogues have to be specially written so that the lip movements of actors remain almost the same.

This is how, for instance, *Awara* was dubbed so well in Russian. Raj Kapoor, Nargis and the late Prithviraj not only seemed to be speaking in Russian, but the dubbing artistes speaking Russian had voices which perfectly matched those of the original actors.

The magic of the cinema is not merely visual, to be seen; it can also be heard. Ghost voices are heard singing through the lips of well-known but non-singing film stars, Indian actors can be heard speaking Russian, and Tamil actors can be seen and heard intoning Hindi.

THE TEMPO OF THE FILM

You may have edited your school magazine or the wall newspaper. You may have given an article, poem, joke, anecdote or drawing to the editor of such a paper or wall newspaper. In that case you know what is meant by editing.

Editing for films is basically the same, but it is even more important.

When editing a school magazine or national newspaper the editor supervises the compilation and final arrangement of news, articles, poems and other literary material, cartoons and pictures and also advertisements if they form part of the paper. But each news item, each story, each poem and each advertisement has an independent existence. It can be appreciated on its own merits.

In films no shot has a meaning, no picture has meaning,

Editing the film

a sound-track has no meaning, unless the editor joins them together in a certain pattern and gives them the meaning that the director and the writer intended. It is the editor who joins shot to shot, scene after scene, co-ordinates the dialogue or sound appropriate to the silent picture. Only then does the resultant film acquire coherence and hold the interest of the audience. Otherwise it would be a meaningless jumble of pictures and sounds.

When songs or dances are picturised it is the editor, or one of his assistants, who synchronises the lip movements of the actors, their actions, gestures, body movements, with the pre-recorded song or music-track, giving you the thrill of seeing your favourite actor or actress singing so musically and dancing so rhythmically.

While the director ultimately determines the goodness or badness, the excitement or lack of interest of the film as a whole, he would not be able to create any kind of film without the intelligent and resourceful co-operation of the editor.

Sometimes while seeing a film you feel that the 'tempo', that is, the speed at which scenes follow one another, is fast and exciting, at other times you feel the tempo is slow. You may not be able to analyse it at the time, to say why this is so. But it depends on the quality and skill of the editor. When a film moves at an appropriate tempo, it is because the editor, by his knowledge of the craft and long experience, knows exactly how long or short a scene or shot should be. He can save a picture by cutting out the unnecessary or boring portions with his scissors, just as a surgeon can save a human life with his healing knife.

The director is sometimes called the captain of the ship. And this is true because the total film is his creation. Like the captain of the ship he knows the direction in which he is going. If he is the captain, the editor is his chief engineer—the ship moves at the speed and tempo that he wants. But for him, the ship would go off course. He keeps it moving in the direction that the director has fixed in consultation

with the writer. That is why some famous directors, both Indian and foreign, do their own editing or closely collaborate with the work of editing.

The work of the editor is becoming more difficult and complex as new forms and techniques of film making become popular. It is no longer sufficient for the editor to place shot eleven after shot ten, or put scene forty-five after scene forty-four, exactly as pre-written in the script. The new style of direction and editing calls for many improvisations, variations of form and technique.

Writers and directors are no longer satisfied with telling a straightforward story, in the proper sequence. They sometimes want to tell not only what happened, but what might have happened. They picturise not only the actions but the thoughts and imagination of their characters. There are flashbacks (where past events are

Shooting a scene in the desert at night

recalled) and even flashforwards (where future events are anticipated). The editor or the director-editor has to use not only his knowledge and experience but also his imagination, even his inspiration.

The new film is coming close to the editing technique called montage, originally introduced by the great Russian director, Sergei Eisenstein, for certain effects in his films. Montage is the technique which places seemingly unrelated images or shots in a particular sequence to create poetic, dramatic or literary meaning. The best known example of montage is the first two shots of Charlie Chaplin's famous film *Modern Times*. The first shot showed a flock of sheep moving slowly, with their heads bowed, through a gate into an enclosure. The second shot showed a crowd of factory workers moving slowly, with their heads bowed down, through a gate into the compound of a factory. The two shots were by themselves unrelated. But pieced together they had a definite meaning: in modern times human beings have become like sheep.

The symbolisms sometimes used in Indian films are also a kind of montage—like the shot of a *chirag* being suddenly extinguished on the death of some character. But a very good example of an intelligent montage was the shot of a white kite soaring high in the blue sky immediately after the death of a poor poet who had to sell kites for a living. The soaring white kite was, poetically, supposed to represent his soul rising to heaven. It was a simple but effective metaphor of the cinema.

MUSIC FOR THE MILLIONS

Many people who come to Bombay want to visit a film studio and to attend a song recording. We have already taken you inside a film studio: now we will take you to a recording theatre.

There are five or six recording theatres in Bombay which are supposed to be the best in the country, so producers from Madras and Calcutta often come here to record their songs, specially those for Hindi films.

When you enter the recording theatre you will see a crowd such as perhaps you did not even see in the film studio. About a hundred musicians with their musical instruments (which may be as small as a flute or as big as a piano or organ) are present in the hall. Each one has a stand in front of him on which is kept the musical score, written according to the Western system of music.

A low angle shot

There are four or five microphones placed at various angles, near different groups of musical instruments, to catch their resonance in the most effective manner.

Among the instruments there are some Indian ones too, like the *sarangi, sitar, tabla, jal tarang*, etc. But the overwhelming majority are Western instruments like violins, bongo drums, guitars, the piano, organ, concertina, etc.

Now you will understand why the Western element dominates in the music of the majority of Indian film songs, though the song itself is in Hindi, Urdu or one of the many Indian languages, and the melody and basic tune are generally Indian. This alliance of Western and Indian music is not necessarily bad, and has given us some of our most memorable film songs. It is in keeping with the general popularity of Western dress, the Western way of life, and Western pop music, and conforms to the mood and tempo of the new life specially in the industrialised cities.

Of course there are exceptions. Some music directors use only Indian instruments and follow the classical Indian pattern in choosing their *ragas* and musical accompaniment. But the more popular music directors prefer to mix Indian and Western music, with different degrees of success. And, of course, the more successful and popular music directors engage a whole army of musicians for their song recordings. It is a kind of status symbol, a trade mark of success.

Next to the hall are two sound-proof cabins. One is reserved for the singer or singers. From here sing all the

Inside the recording theatre

famous voices heard in Indian films—Lata Mangeshkar, Asha Bhonsle,. Mohammed Rafi, Kishore Kumar, Mukesh, Talat Mehmood and others—singing solos or duets and, occasionally, participating in a chorus.

All the microphones are connected to the recording machine in the other cabin where the recordist and his assistants sit in front of a number of switches and knobs. They manipulate these and increase or decrease the sound coming through the different microphones. At one point the voice of the singer may be kept uppermost, at another moment the rhythm instruments—drums, *tabla*, double bass, etc.—may be most prominent, while on occasion preference is given to some individual instrument like

the flute or *sarangi*, clarinet or saxophone, or to a whole row of violins.

It takes a couple of hours for the musicians to rehearse the music for a song, for harmony to be achieved between them and the singer's voice and to achieve the final balancing of words and music. When the recordist and the music director (who sits next to the recordist, carefully listening to the song as it comes over the loud-speaker installed in the cabin) are both satisfied, the actual recording begins. The first try or 'take' (as it is called here) is seldom declared to be 'O.K'. Generally it requires four or five or six takes for one take to be declared the best or 'O.K. take'. Since these recordings are done on a big tape recorder, it does not matter how many takes there are. Ultimately the perfect one is transferred onto the sound film and the other takes on the tape erased. This method ensures economy in the use of the fairly expensive sound film.

After the song has been transferred to the sound film and the film developed, one copy is printed for playback purposes in a studio or on outdoor location—maybe in Kashmir or Kulu, Ootacamund or the Juhu beach. Another print is sent to the Gramophone Company for making records.

And thus through the film when it is completed and released and through the records played on the radio in commercial or general programmes of music, the song will travel to the millions, will be liked or disliked, and accordingly serve as publicity for the film.

Most Indian films have these pop songs, but a few

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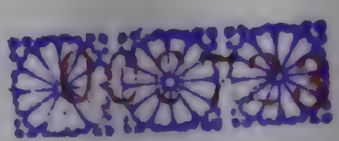
films are being made which are of an experimental nature, and which have no songs. These, however, are an exception to the general rule of having songs to ensure the mass popularity of a film.

Songs do not exhaust the musical requirements of a film.

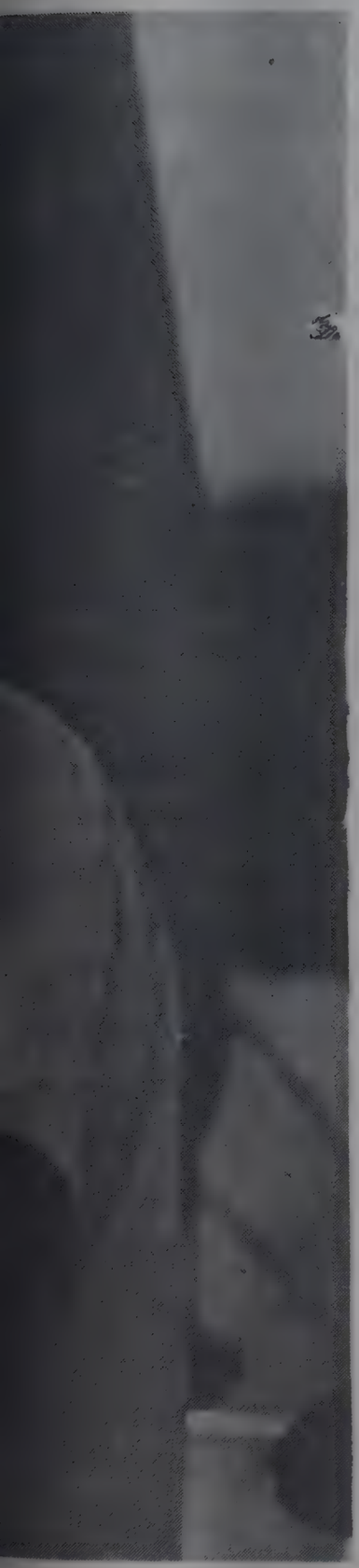
When the film shooting is completed it requires background music to relieve the monotony of the silent scenes and enhance and accentuate the dramatic effect of the important scenes. This again is done in the recording theatre. Different portions of the film requiring background music are projected on the screen several times for the orchestra to rehearse these special music pieces composed by the music director. Then they are recorded, the process being the same as for the songs. Sometimes not only orchestral music but human voices are also used for *taans* and choral effects.

Only when the background music is recorded (and this is even more necessary for the few films without songs) are we ready for re-recording. This is almost the final stage in the completion of a film.

Soon we will be able to see the finished film on the screen of our local cinema, as millions watch it in their neighbourhood cinema-houses.



The director, Satyajit Ray



DRESSING THE BRIDE

By now the cameraman has filmed all the scenes in the film.

The sound-recordist has recorded, or dubbed, all the dialogues spoken by the different actors.

He has also separately recorded all the sound effects, incidental but dramatically important, sounds like doors opening, booted feet walking across the road, the clanging of train wheels, the drone of

a motor-car, the clatter of a horse-carriage or bullock-cart, the pop of a bottle of wine or aerated water being opened, the barking of a dog or the miaow-miaow of a cat.

The appropriate background music has also been recorded on a separate film to be used on pre-chosen occasions, either with the dialogues or to accentuate the drama of the silent scenes, or to create a mood, serious or gay, comic or tragic.

There are three strips of sound film on which are recorded separately the dialogue, the sound effects and the background music. But for the final film only one sound-track is printed on the side of the film strip containing the pictures.

This requires a process known as 'mixing' or 're-recording', when the two, three, four or more sound-tracks are mixed or re-recorded on to one strip of sound film.

First, each reel of the sound strip is synchronised with the corresponding reel of pictures. Then all the sound strips are run simultaneously and synchronously in a special projector along with the picture and the re-recordist sits in his booth manipulating the knobs and switches in front of him—now lowering the music to give clarity to the dialogue, now giving prominence to the sound effects, now to the background music. A turn of the knob and the sounds become loud, a turn in the opposite direction and they become just whispers. It is done according to the mood and tempo of the scene and so the recordist (or the re-recordist) must not only have a dramatic but also a musical sense to balance the dialogue with the music and sound effects.

The overall supervision has to be the director's. It is he who has to decide about the relative levels of the different elements involved in the re-recording. Of course, the technical work is done by the sound-recordist or the re-recordist, but, as you know, the director has the final responsibility and overall authority to decide about each aspect of the film.

When the re-recording is over, the 'mixed' voices, sounds and music are on one track called the Re-recorded Sound Track. This, and the picture negative will be printed together for the finished talking film. This is called the 'married print'—the marriage being of picture and sound. Hence the final stage of re-recording is like dressing a bride in her wedding sari or bridal dress. Now the couple—the married print—are ready to face the audience.

ARITHMETIC OF THE CINEMA

A film is no longer mysterious magic for you.

It is the product of a scientific technique which creates the impression of moving pictures. You now have an idea of how that illusion is created.

Film making is a mechanical process which tells a story cinematically, in black and white or colour images and sounds, which have been photographed and recorded separately and then pieced together acc rding to a particular sequence devised by the director and the editor.

Film is a new form of expression, like a story, play, novel, or even like poetry. It is a new form of art, a combination of all the different arts, since it combines the arts of acting, painting, sculpture, literature, architecture and, above all, the art of music.

But what distinguishes it from the other arts is the complexity of the process. It requires hundreds of men

and women and dozens of machines to work together for several months or years to create a film.

You can produce a great melody on a bamboo flute which costs only a rupee. You can dispense with even that expense. You can create great vocal music, with just your throat.

All that a writer needs to have when writing a novel is a pen or pencil and a couple of reams of paper costing maybe ten or twenty rupees.

A great painting can be painted on a canvas with paints costing fifty or a hundred rupees or even drawn on a wall with a piece of coal.

But even the least expensive of films costs a couple of lakhs of rupees and requires the services of dozens of skilled technicians like a cameraman, sound-recordist, art director, lighting men, and the use of expensive machines such as a camera, sound-recording apparatus, an editing table and eventually a projector to run the film in a cinema. Above all, it necessarily requires the expense of photographic and sound-recording film. All these cost a lot of money.

A thousand feet of coloured film negative costs about Rs 1,600 (in 1976). It runs in the camera for exactly eleven minutes and, if you are using the film very economically, you may expect three or four minutes of the finished film from it. At least forty or fifty such tins of negative are required for a full feature-length film running for about two hours. The big commercial producers use hundreds of rolls of film.

The sound film required for recording dialogue, sounds, songs and music costs about Rs 400 for a roll of a thousand feet. At least a hundred such rolls are needed for a picture.

An idea of the expense of making a film may be gained from the fact that each print of a colour picture (running for about two and a half hours) is not less than Rs 13,000, and for an all-India release at least seventy or eighty prints are required. Even a black and white print of this length would cost about Rs 4,000.

That is why the cinema is regarded as the most expensive of all the arts. In fact so much money is required for the making of films that the business has gone into the hands of men of money, financiers and moneyed producers. From an art it has become an industry; so you hear people speaking of 'the film industry'.

Jean Cocteau, a great French writer and film director, has said that the film will only really become an art when cameras are as cheap as fountain pens and raw film stock is as cheap as paper.

What he meant was that so long as it remains an expensive business, requiring millions of francs or rupees, it will remain a business, an industry in the hands of the men of money. To ensure the return on their money with maximum profit, they employ all methods to make their films more attractive—colour, big sets, expensive decorations, highly paid stars, music directors and playback singers. Very large amounts are spent on publicity for the picture through the press and posters, and the radio commercial service to make the songs popular. Competition between

The cameraman preparing for the shot

producers increases the price of each item, and now pictures are being planned each of which will cost more than Rs 1,00,00,000. There is less art and more arithmetic in such films.

This is why any move towards reducing the cost of film making is to be welcomed. In some countries cheap portable cameras and tape recorders, and inexpensive easy-to-carry lights are being used to make films on location, sometimes literally in the streets.

In India the Government's Film Finance Corporation is providing a few lakhs to young, enthusiastic directors to make experimental films with new artistes on a small budget. Even otherwise, several producers and directors are making films on shoe-string budgets. Some of these films are really good, they are artistic and even entertaining, but very few people hear about them for they are not released in commercial cinemas which prefer the big budget, all star films. Only occasionally films like *Pather Panchali*, *Shehar Aur Sapna*, *Bhuwan Shome* or *Samskara*, because of the publicity of winning the President's Gold Medal or some award in a foreign film festival, manage to reach a mass audience.

But even this is a small beginning in the right direction.

HOW TO SEE FILMS

Now that you have a fairly good idea of how films are made, what they cost, and the different artistic and commercial elements that go into their making, I hope you will see films more intelligently and with greater discrimination.

To the mass of cinegoers the stars—handsome heroes, beautiful heroines, fearful looking villians—are the main attractions of a picture. Their names draw the crowds to the box-office.

But how many times have you been disappointed after seeing your favourite stars wasted in a film with a meaningless story, poorly directed, with bad photography, sound recording and editing. You must have been surprised that such good artistes agreed to work in such a picture.

The next time, don't go to see a picture only because

of the star names. Find out the names of the director and the producer, the story writer, screenplay writer, dialogue writer, cameraman and editor. These are the people who under the overall guidance of the director really make or unmake a film. No actor or actress can give a great performance if his or her part is poorly written and if the film is badly directed.

When seeing a film, develop the habit of analysing it, both its good and bad points. If it is a good film, see it a couple of times, then you will begin to notice the finer points of direction, acting, dialogue, photography and editing. Apart from other things, it will add to your enjoyment of the film.

Remember each film is made successful or unsuccessful by you, the cinema-goers. In the final analysis, it is the audience that not only makes the film successful but determines its artistic level and even its technical qualities. How? By patronising certain types of films and refusing to see certain other types. Make yourself and your friends conscious of this great responsibility. Every ticket that you buy for a good film helps the production of good films, just as every ticket you buy for a bad film encourages the production of bad films.

After developing the capacity to appreciate good films, and discrimination between good and bad pictures, you may even be interested in making films on your own. To begin with they may be eight millimetre films made in collaboration with your school friends (as boys and girls in England and America, the Soviet Union and

Satyajit Ray looking through his camera

Czechoslovakia are doing), later sixteen millimetre ... made with your college friends; and eventually thirty-millimetre professional films for the entertainment a education of all your countrymen. Who knows one of readers of this little book may one day blossom into a film maker like Shantaram, Raj Kapoor, Hrishike Mukerjee, or Satyajit Ray.

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